CLAIMS

1. A distributor (1) for distributing a flow of fluid over at least one surface (3) to be cooled, the distributor (1) comprising a housing (13) being manufactured in a single piece and having formed therein an inlet manifold (8), an outlet manifold (9) and a plurality of flow cells (26, 27, 28, 29) connected between the manifolds (8, 9),

each flow cell (26, 27, 28, 29) comprising a cell inlet (5) in fluid communication with the inlet manifold (8), a cell outlet (6) in fluid communication with the outlet manifold (9), and a flow channel for guiding a flow of fluid from the cell inlet (5) along the surface(s) (3) to the cell outlet (6),

wherein an inner wall structure (4) of the housing (13) defines the inlet manifold (8), the outlet manifold (9) and the plurality of flow cells (26, 27, 28, 29).

2. A distributor (1) according to claim 1, wherein the plurality of flow cells (26, 27, 28, 29) are connected in parallel between the manifolds (8, 9).

3. A distributor (1) according to claim 1 or 2, wherein the fluid is a liquid.

4. A distributor (1) according to claim 1 or 2, wherein the fluid is a two-phase cooling fluid.

5. A distributor (1) according to any of the preceding claims, wherein each flow channel is formed to cause a plurality of changes in the direction of flow of the fluid flowing along the surface(s) (3).

6. A distributor (1) according to any of the preceding claims, wherein the housing (13) comprises at least one main opening formed to be closed in a substantially fluid tight fashion by a surface (3) to be cooled.

7. A distributor (1) according to claim 6, wherein the housing (13) comprises at least two main openings, each being formed to be closed in a substantially fluid tight fashion by a surface (3) to be cooled.

8. A distributor (1) according to claim 7, wherein at least two of the main openings are arranged in the same plane or in substantially parallel planes.

9. A distributor (1) according to claim 7 or 8, wherein the housing (13) comprises two main openings being arranged in substantially parallel planes opposite each other with the inner wall structure (4) arranged in between.

10. A distributor (1) according to claim 7, wherein the housing (13) comprises at least three main openings being arranged relatively to each other in such a way that a cavity is formed between them, the inner wall structure (4) being arranged within said cavity.

11. A distributor (1) according to any of the preceding claims, wherein the housing (13) comprises an inlet opening (15) for leading fluid to an inner part of the housing (13) and an outlet opening (14) for leading fluid out from the inner part of the housing (13), the inlet opening (15) being in fluid communication with the inlet manifold (8), and the outlet opening (14) being in fluid communication with the outlet manifold (9).

12. A distributor (1) according to claim 11, wherein the inlet opening (15) and the outlet opening (14) are formed on an outer surface of the housing (13).

13. A distributor (1) according to claim 12, wherein the housing (13) comprises a substantially plane surface (11) having the inlet opening (15) and the outlet opening (14) formed therein, and having the inner wall structure (4) formed on one side thereof.

14. A distributor (1) according to any of the preceding claims, wherein the inner wall structure (4) delimits at least one inner flow cell (27, 29) for distributing

fluid over a central part of the surface(s) (3) to be cooled and at least one outer flow cell (26, 28) for distributing fluid over a peripheral part of the surface(s) (3) to be cooled.

15. A distributor (1) according to any of the preceding claims, wherein the inner wall structure (4) delimits a meandering flow path along the surface(s) (3) in each flow cell (26, 27, 28, 29).

16. A fluid-coolable unit for removing heat from a heat source, the unit comprising a plate heated by the heat source and a distributor (1) according to any of the preceding claims for distributing a flow of cooling fluid over a surface (3) of the plate.

17. A fluid-coolable unit according to claim 16, wherein the unit comprises two plates, each being heated by a heat source, and wherein the distributor (1) is adapted to distribute a flow of cooling fluid over a surface (3) of each of the plates.

18. The use of a unit according to claim 16 or 17 for removing heat from an electronic circuit.

19. A fluid-coolable electronic unit, the unit comprising an electronic circuit encapsulated in a circuit module having an outer surface (3), and a distributor (1) according to any of claims 1-15 for distributing a flow of cooling fluid over the surface (3).